

ABSTRACT

CBN powder (11) which is an electrically insulating hard matter is mixed with Co-based alloy powder (12) which is a conductive matter, resultant powder mixture is put into 5 a press mold and compression-molded to thereby form an electrode for discharge surface treatment (10). Electric discharge is generated between the electrode (10) and a treatment target material (16) by a discharge surface treatment power-supply unit (17), and a hard coat (20) made 10 of CBN and Co-based alloy having high hardness even in a high temperature environment is formed on the treatment target material (16).